

## CLAIMS

What is claimed is:

1. A cathode ray tube convergence circuit, comprising:
  - A low voltage power supply;
  - A high voltage power supply; and
  - A low-power dissipating switching network which switches between said low voltage power supply and said high voltage power supply.
2. A cathode ray tube convergence circuit as recited in claim 1, wherein power dissipation of said low-power switching network is in the range of approximately 25 Watts to approximately 50 Watts.
3. A cathode ray tube convergence circuit as recited in claim 1, wherein low voltage power supply operates between approximately 12V and approximately 24V.
4. A cathode ray tube convergence circuit as recited in claim 1, further comprising a divided rail circuit.
5. A cathode ray tube convergence circuit as recited in claim 1, wherein said low voltage power supply drives a standard deflection yoke of the cathode ray tube.

6. A cathode ray tube convergence circuit as recited in claim 1, wherein said high-voltage power supply drives a convergence yoke during a retrace interval of the cathode ray tube.

7. A cathode ray tube convergence circuit as recited in claim 1, wherein an output stage receives a power from one of said power supplies at a particular time, and a power from the other of said power supplies does not traverse said switch network at said particular time.

8. A cathode ray tube convergence circuit as recited in claim 1, wherein said switching network further comprises at least one field effect transistor which dissipates less than approximately 200mW of power.

9. A cathode ray tube convergence circuit as recited in claim 1, wherein said switching network further includes transistors and diodes.

10. A cathode ray tube convergence circuit as recited in claim 1, wherein the convergence circuit drives convergence yokes of the cathode ray tube.

11. A cathode ray tube convergence circuit as recited in claim 1,

further comprising a voltage feedback circuit to initiate said switching.

12. A cathode ray tube convergence circuit, comprising:

A boost-on-demand circuit which includes a positive polarity convergence circuit, and a negative polarity convergence circuit; and wherein said positive and negative polarity convergence circuits further comprise a switching network.

13. A cathode ray tube convergence circuit as recited in claim 12, wherein said positive and said negative polarity convergence circuits each include a first rail and a second rail.

14. A cathode ray tube convergence circuit as recited in claim 13, wherein said first rails are low voltage rails, and said second rails are high voltage rails.

15. A cathode ray tube convergence circuit as recited in claim 12, wherein said positive polarity convergence circuit outputs high and low voltages to deflection yokes of the cathode ray tube.

16. A cathode ray tube convergence circuit as recited in claim 15, wherein said negative polarity convergence circuit outputs high and low voltages to deflection yokes of the cathode ray tube.

17. A cathode ray tube convergence circuit as recited in claim 12, wherein said boost-on-demand circuit outputs a high voltage to drive at least one convergence yoke for a relatively short time duration so that output power is conserved.

18. A cathode ray tube convergence circuit as recited in claim 17, wherein said boost-on-demand circuit outputs a low voltage for approximately 75% of an operating time of the cathode ray tube.